

**SALTON SEA
BIOLOGY TECHNICAL WORKGROUP
MEETING NOTES**

**November 14, 2007
10:00 – 3:30
UC Riverside, Palm Desert, CA**

Welcome and Introductions

Arturo Delgado, Department of Fish and Game (DFG), welcomed the attendees and led introductions of those present (see attached list).

Meeting Overview

Arturo outlined the agenda for the meeting, which included:

- Review of the Final PEIR Preferred Alternative
- Monitoring and Assessment Plan
- Identify recent and current monitoring activities
- Identify and discuss monitoring considerations
- Next steps

Review of the Final PEIR Preferred Alternative

Jerry Boles, Department of Water Resources (DWR) gave a short presentation on the restoration planning process which included the steps to selecting a preferred alternative, observations by the working group, public comments, and details of the Preferred Alternative.

It was emphasized that the legislature has not yet selected a preferred alternative, however, funding was allocated in the Governor's 2007-2008 budget to continue to collect information. The Preferred Alternatives Report outlined four periods, Period 1 is for implementation of the Five Year Plan, Period 2 would include major construction, Period 3 would include construction completion, and Period 4 would be operation and maintenance of the project.

Jerry also described where we are now in the process and outlined the schedule for the Five-Year Plan. Arturo then described the proposed demonstration project and proposed Early Start Habitat.

Monitoring and Assessment Plan

Doug Barnum (USGS) gave a short presentation on the goals and objectives for the Monitoring and Assessment Plan (MAP), which were developed at an earlier meeting hosted by USGS and described the various workgroups that have been formed.

The various workgroups will be responsible for developing Monitoring and Assessment Plans (MAPs). These will include:

- Air Quality and Climatological Data
- Biological Data
- Hydrological Data
 - Water quality
 - Stream flow
 - Groundwater
- Geographic/Geology Data
- Socioeconomic Data
- Data Management

Arturo provided the overarching goal and objectives of the MAP as part of the meeting handouts, including:

Goal: to implement a data collection, analysis, management, and reporting system to inform and guide management actions for the restoration of the Salton Sea ecosystem.

Objectives:

- conduct a retrospective analysis of data to determine their relevance/applicability for inclusion into the MAP
- incorporate relevant existing data into the MAP
- measure and assess changes from reference conditions to the Salton Sea ecosystem
- provide information to refine hypotheses of ecosystem functions
- provide information to assess performance of project implementation and management actions
- store, manage, and make publically available monitoring data in a timely manner

The workgroup members stressed the importance of identifying the goals and objectives of the biological MAP to drive the types of monitoring that will be conducted.

The importance and role of the retrospective data analysis was discussed. For the most part, the intent is not to make an effort to standardize past datasets, but to standardize moving forward and make sure that past data is not lost. Data quality needs to be considered when using past data.

Data Management

Kristina White (DFG) gave a short presentation on the BIOS system used by DFG for data management. She stressed the importance of metadata for inclusion in the BIOS system. It is not DFG's intent to seek out all prior data on the Sea for inclusion in BIOS, but will rely on the various technical groups to identify data sets for inclusion. There was some discussion as to whether USGS data could be included prior to peer review and publication. The former Redlands database on the Sea is included in materials provided by CH2M HILL for inclusion in BIOS and will be incorporated in the future. It was noted that DFG can provide guidance on data delivery formats to include in future contracts to facilitate entry into BIOS.

Recent and Current Biologic Monitoring in the Salton Sea Basin

Several recent and current studies were identified. It was emphasized that the list presented was not intended to be all inclusive and the workgroup was asked to provide information on other studies that may be of use in development of the MAP.

Other studies identified by workgroup members include:

Birds

- Comprehensive shoreline surveys for waterbirds conducted by LA Museum/Sonny Bono NWR
- Christmas Bird Counts
- Mist netting by Coachella Valley Vector Control
- Torres-Martinez bird counts
- Mortality events documented by DFG and USFWS
- DFG data on birds in agriculture and at Wister
- IID Covered Species surveys conducted by ERA
- Burrowing Owl studies for IID
- Historical rookery data from DFG files
- Aerial surveys for pelicans and cormorants (DFG)
- Snowy plover surveys (LA Museum)

Fish

- Tilapia studies (late 90's) by Costa-Pierce et al.
- Early monograph on Fisheries of the Salton Sea (includes invertebrates)
- Selenium monitoring/fish collections in drains (USGS for IID)
- Pupfish trapping (DFG)
- Summary of pupfish studies (DFG)
- Angler catch/effort data from historic sport fishery (DFG)
- USGS survey work in study ponds

Invertebrates

- Reclamation/SDSU 1999/2000 and repeat in 2004/2005
- Collections during sediment sampling for PEIR
- Stomach content data from birds (LA Museum)
- Collection of pileworms for assessment of contaminants (USFWS)
- Plankton collection (Mary Ann Tiffany)

It was noted that water quality data is often collected during biological studies and should be included in any retrospective analysis.

Monitoring Considerations

Biological groups for potential monitoring were identified. Workgroup members agreed that these groups cannot be considered in isolation, but must be integrated into an analysis of the entire system. It was suggested that the list be expanded to include plants, and microorganisms. It was desired that a conceptual model of the ecosystem be developed, identifying stressors in the system. Doug Barnum presented a simple conceptual model from earlier work that could be updated using recent information.

Neil Nikirk (CH2M HILL) suggested that this group needs to focus on using the existing information, identifying data gaps, and developing a focused monitoring program that can be implemented in the next five years to gather information useful in the design of elements likely to be included in any restoration (e.g. Early Start Habitat).

Integration both within this technical group and across groups was identified as being an important consideration. Peer review of work products was also identified as important (see next steps). Workgroup members agreed that monitoring need not be limited only to the Sea, but could include adjacent areas and drains.

Next Steps

Arturo restated that the intent is to develop a draft biological monitoring plan by February. Meetings of this technical working group will be held monthly. Tentative dates for the next meeting were discussed and December 11, 12, 18, or 19 identified as possible meeting dates.

Tasks were identified that need to be completed prior to the next meeting:

- Compile list of recent and current monitoring efforts and summarize the data collected into a metadata table (DFG, with input from workgroup members)
- Distribution of meeting notes (CH2M HILL and DFG)
- FTG members to identify potential peer reviewers (submit suggestions to Arturo)
- Review Strategic Science Plan (Salton Sea Science Subcommittee 2000) and update conceptual models using information from PEIR (CH2M Hill and DFG)
- FTG members to develop a list of potential monitoring variables

Workgroup members were asked to think about what they envision for specific monitoring activities and provide input to Arturo. Neil Nikirk (CH2M HILL) asked that the list of potential activities be as specific as possible and include:

- What will be measured (variable)
- How it will be measured (methods)
- Where it will be measured (locations)
- Why the variable is important
- How will the data collected be used to guide/evaluate future restoration activities
- Relative priority

The intent of developing this list is to be able to convene at the next meeting and begin identifying priorities for monitoring, specific variables to monitor, and identifying where monitoring efforts overlap (in time and space) such that sampling efficiency can be improved.

DFG will convene a second meeting of the Biology Workgroup in December.

Attachment 1 Attendees

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